

Table S2. DNF learning algorithm**Disjunctive Normal Form Learning Algorithm(C, n^+):****Input:**A set C of clauses n^+ : the set of positive sequence index to be covered by the clauses**Steps:**

1. Euivalence filtering

2. Among the clauses that cover only the positive sequences, find a minimum set of clauses that cover all the positive sequences:

2a. start from the clauses that cover the positive sequences which are rarely covered by other clauses

2b. repeat 2a recursively until all the positive sequences n^+ are covered**Output:**

The set of the shortest DNF